

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (previously presented) An intraocular lens system comprising an insertion and injection device and a deflated lens member having an interior;
wherein the insertion and injection device includes:
a moveable member having a outlet port provided therein,
an outer member in which is disposed the moveable member,
wherein the deflated lens member is mounted about and to an end of the moveable member such that the deflated lens member is sealingly engaged with a portion of the moveable member so that the interior of the deflated lens member forms a compartment,
wherein the moveable member outlet communicates with the deflated member compartment, wherein the deflated lens member includes a self-sealing mechanism in which the insertion and injection device is removably and sealingly received such that the insertion and injection device can be removably and sealingly received in the self-sealing mechanism repeatedly, and wherein the self-sealing mechanism is flush or continuous with the surrounding lens member.

Claim 2. (previously presented) The intraocular lens system of claim 1, wherein the moveable member and the deflated lens member mounted thereon are movably disposed within the outer member such that the moveable member is movable between a first position and a second position, the second position corresponding to a deployed condition of the deflated lens member external to the outer member.

Claim 3. (original) The intraocular lens system of claim 2, wherein a distal end of the moveable member is configured and arranged so as to engage an interior surface of the deflated lens member whereby the deflated lens member is drawn out from the outer member when the moveable member is moved from the first position to the second position.

Claim 4. (original) The intraocular lens system of claim 1, further comprising a source of an optical medium, the source being operably coupled to the insertion and injection device such that when the moveable member is in the second position, the optical medium is injected into the deflated lens member compartment via the moveable member outlet port.

Claim 5. (original) The intraocular lens system of claim 4, wherein the moveable member includes a plurality of outlet ports.

Claim 6. (original) The intraocular lens system of claim 1, wherein the moveable member includes a plurality of outlet ports.

Claim 7. (previously presented) The intraocular lens system of claim 1, wherein the deflated lens member includes a self-sealing mechanism which is removably and sealingly received by the moveable member.

Claim 8. (original) The intraocular lens system of claim 1, further comprising one or more haptics extending outwardly from the deflated lens member.

Claim 9. (previously presented) An intraocular lens system comprising an insertion and injection device and a deflated lens member having an interior;

wherein the insertion and injection device comprises an outlet member, the deflated lens member is mounted to the outlet member, wherein the deflated lens member includes a self-sealing mechanism in which the insertion and injection device is removably and sealingly received such that the insertion and injection device can be removably and sealingly received in the self-sealing mechanism repeatedly and wherein the self-sealing mechanism is flush or continuous with the surrounding lens member.

Claim 10. (previously presented) A method for implanting an intraocular lens in an eye and adjusting refractive power of the intraocular lens at any time following implantation comprising:

mounting a deflated lens member about and to an end of a moveable member such that the deflated lens member is sealingly engaged with a portion of the moveable member via a self-sealing mechanism so that an interior of the deflated lens member forms a compartment and such that an outlet port in the moveable member communicates with the deflated member compartment;

disposing an outer member about the moveable member;

inserting a portion of the outer member within the eye via an incision;

moving the moveable member from a first position within the outer member to a second position outside of the outer member, thereby deploying the deflated lens member;

forming the intraocular lens by injecting an optical medium into the deflated lens member compartment when the moveable member is in the second position using the moveable member outlet port;

moving the movable member from the second position outside the outer member to the first position within the outer member while the movable member concurrently withdraws out of the lens member thereby implanting the lens within the eye;

allowing the self-sealing mechanism to seal the lens;

removing the movable member from the eye and allowing the intraocular lens to remain in the eye;

closing the incision; and

wherein adjusting the refractive power of the intraocular lens at any time after the movable member is removed from the eye and the intraocular lens remains in the eye, by inserting an injection device may be inserted into the intraocular lens to adjust the amount of optical medium in the intraocular lens.

Claim 11. (original) The method for implanting an intraocular lens according to claim 10, wherein said forming an intraocular lens further includes injecting a pre-determined amount of the optical medium into the deflated lens member compartment so as to selectively control the refractive power of the formed intraocular lens.

Claim 12. (original) The method for implanting an intraocular lens according to claim 10, wherein while moving the moveable member to the second position, said moveable member acts on an interior surface of a distal end of the deflated lens member so as to cause the distal end to be first withdrawn from within the outer member.

Claim 13. (original) The method for implanting an intraocular lens according to claim 12, wherein portions of the deflated lens member are successively withdrawn from the outer member by said moveable member acting.

Claim 14. (original) The method for implanting an intraocular lens according to claim 10, further comprising moving the moveable member from the second position towards the first position after injecting the optical medium so as to withdraw the moveable member from the inflated lens member.

Claim 15. (previously presented) A method for treating one of aphakia or cataract of an affected eye, comprising:

- removing the impaired natural lens of the affected eye;
- mounting a deflated lens member about and to an end of a moveable member such that the deflated lens member is sealingly engaged with a portion of the moveable member so that an interior of the deflated lens member forms a compartment and such that an outlet port in the moveable member communicates with the deflated member compartment;
- disposing an outer member about the moveable member;
- inserting a portion of the outer member within the eye;
- moving the moveable member from a first position to a second position, thereby deploying the deflated lens member;
- forming an intraocular lens by injecting an optical medium into the deflated lens member compartment when the moveable member is in the second position using the moveable member outlet port;
- removing the movable member from the eye; and

allowing the intraocular lens to remain in the eye, wherein the lens member includes a self-sealing mechanism that is flush or continuous with the surrounding lens member, wherein the movable member is removably and sealingly received in the self-sealing mechanism and wherein after the movable member is removed from the eye and the intraocular lens remains in the eye, an injection device is inserted into the self-sealing mechanism to adjust the amount of optical medium in the intraocular lens.

Claim 16. (original) The method for treating according to claim 15, wherein said forming an intraocular lens further includes injecting a pre-determined amount of the optical medium into the deflated lens member compartment so as to selectively control the refractive power of the formed intraocular lens.

Claim 17. (original) The method for treating according to claim 15, wherein while moving the moveable member to the second position, said moveable member acts on an interior surface of a distal end of the deflated lens member so as to cause the distal end to be first withdrawn from within the outer member.

Claim 18. (original) The method for treating according to claim 17, wherein portions of the deflated lens member are successively withdrawn from the outer member by said moveable member acting.

Claim 19. (original) The method for treating according to claim 15, further comprising moving the moveable member from the second position towards the first position after injecting the optical medium so as to withdraw the moveable member from the inflated lens member.

Claim 20. (previously presented) A device kit comprising at least one insertion and injection device and a deflated lens member having an interior;
wherein the insertion and injection device includes:
a moveable member having a outlet port provided therein,
an outer member in which is disposed the moveable member,

wherein the deflated lens member is mounted about and to an end of the moveable member such that the deflated lens member is sealingly engaged with a portion of the moveable member so that the interior of the deflated lens member forms a compartment, and

wherein the moveable member outlet communicates with the deflated member compartment through a self-sealing mechanism in which the movable member is removably and sealingly received and wherein the self-sealing mechanism is flush or continuous with the surrounding lens member.

Claim 21. (Cancel)

Claim 22. (currently amended) A method for treating one of aphakia or cataract of an affected eye, comprising:

removing the impaired natural lens of the affected eye;

mounting a deflated lens member, having an interior compartment, about the end of a moveable member via a self-sealing mechanism in the deflated lens member such that an outlet port in the moveable member communicates with the interior compartment of the deflated member;

disposing an outer member about the moveable member;

inserting a portion of the outer member within the eye;

moving the moveable member from a first position within the outer member to a second position outside of the outer member, thereby deploying the deflated lens member;

forming an intraocular lens by injecting an optical medium into the deflated lens member compartment when the moveable member is in the second position using the moveable member outlet port;

moving the moveable member from the second position outside of the outer member to the first position within the outer member while the movable member concurrently withdraws out of the self-sealing mechanism of the lens member;

removing the outer member from the eye; and

allowing the intraocular lens to remain in the eye;

closing any incisions made in the eye during treatment;

subsequently inserting, whereby an injection device can subsequently be inserted into the intraocular lens via the self-sealing mechanism; and
adjusting the amount of optical medium in the intraocular lens by injecting additional optical medium into the lens and/or removing optical medium from the lens.

23. (New) An intraocular lens system comprising:

a flexible deflated lens member having an interior compartment and a self-sealing mechanism;

an insertion and injection device comprising an outer member and a moveable member, the moveable member movable between a first position within the outer member and a second position external the moveable member

an outlet port provided in the moveable member;

the lens member receiving at least a portion of the moveable member through the self-sealing mechanism, such that the outlet port of the moveable member is in communication with the interior compartment of the lens member;

the self-sealing mechanism engaging the outer surface of the moveable member so that a fluid seal is established between the lens member and the moveable member

the self-sealing mechanism configured to seal the lens member when the movable member is removed from the lens member;

the self-sealing mechanism configured to allow subsequent access to the interior of the lens member, so that the amount of medium within the lens member can be increased or decreased, at any time after the moveable member is removed from the lens member and the lens member sealed.

24. (New) The intraocular lens system of claim 23 wherein the self-sealing mechanism is a self-sealing valve or grommet.